

CLAIMSWhat is claimed is:

1. A transmural evaluation apparatus or probe comprising:
5 a handheld elongate housing having a first end and a second end and defining an interior passage therebetween;
wiring having electrically coupled first and second ends and positioned within the housing passage and passing therethrough;
at least one tissue contact electrically coupled to the first end of the wiring adjacent
10 the first end of the housing; and
a terminal connector electrically coupled to the second end of the wiring.
2. The transmural evaluation apparatus as set forth in claim 1, wherein the terminal connector is adapted to electrically couple the wiring to at least one of an implantable
15 cardiac device programmer and a pacemaker programmer.
3. The transmural evaluation apparatus as set forth in claim 1, wherein the terminal connector is adapted to electrically couple the wiring to a telemetry recording device.
- 20 4. The transmural evaluation apparatus as set forth in claim 1, wherein the terminal connector is adapted to electrically couple the wiring to an electrocardiogram strip recorder.
5. The transmural evaluation apparatus as set forth in claim 1, wherein the terminal
25 connector is adapted to electrically couple the wiring to a cardiac pacing device.
6. The transmural evaluation apparatus as set forth in claim 1, wherein the handheld elongate housing is dimensioned to be received within a thoracic surgical port.
- 30 7. The transmural evaluation apparatus as set forth in claim 1, wherein the wiring is electrically insulated.
8. The transmural evaluation apparatus as set forth in claim 1, wherein the at least one tissue contact is adapted to contact cardiac muscle tissue.

9. The transmural evaluation apparatus as set forth in claim 1, wherein the at least one tissue contact comprises at least two tissue contacts.

10. The transmural evaluation apparatus as set forth in claim 1, wherein the at least one tissue contact comprises six or fewer tissue contacts.

11. The transmural evaluation apparatus as set forth in claim 1, wherein the at least one tissue contact comprises at least two tissue contacts arranged in rows and columns.

12. The transmural evaluation apparatus as set forth in claim 1, wherein the at least one tissue contact comprises at least two tissue contacts arranged linearly.

13. A method for assessing the transmural-ity of a lesion comprising:
providing a probe adapted to sense an electrical signal from tissue;
contacting a first region of tissue with the probe;
establishing a first electrogram of the first region of tissue;
5 ablating a second region of tissue to form an ablated lesion;
contacting the first region of tissue with the probe;
establishing a second electrogram of the first region of tissue; and
comparing the first and second electrograms to assess transmural-ity of the ablated
lesion.

10 14. The method as set forth in claim 13, wherein contacting the first region of tissue
includes epicardially contacting the first region of tissue.

15 15. The method as set forth in claim 13, wherein ablating a second region of tissue
includes ablating a second region of tissue to treat at least one of atrial fibrillation and
atrial flutter.

16. The method as set forth in claim 13, further comprising ablating the second region
of tissue responsive to comparing the first and second electrograms.

20 17. The method as set forth in claim 13, wherein the first and second regions of tissue
comprises muscle tissue.

25 18. The method as set forth in claim 13, wherein the first and second regions of tissue
comprise cardiac muscle tissue.

19. The method as set forth in claim 13, wherein the first region of tissue comprises at
least a portion of a pulmonary vein muscle sleeve, and wherein the second region of tissue
comprises at least a portion of the left atrium.

30 20. The method as set forth in claim 13, wherein the first region of tissue comprises at
least one of a pulmonary vein muscle sleeve and at least a portion of the left atrium.

35 21. The method as set forth in claim 13, wherein the second region of tissue comprises
at least one of a pulmonary vein muscle sleeve and at least a portion of the left atrium.

22. A method for assessing the transmuralty of a lesion comprising:
providing a probe adapted to sense an electrical signal from tissue, the probe comprising:
- 5 a housing having a first end and a second end and defining an interior passage therebetween,
 - wiring positioned to electrically couple the housing first and second ends and positioned within the housing passage and passing therethrough,
 - a tissue contact electrically coupled to the first end of the wiring adjacent the first end of the housing, and
 - 10 a terminal connector electrically coupled to the second end of the wiring;
 - contacting a first region of tissue with the probe;
 - establishing a first electrogram of the first region of tissue;
 - ablating a second region of tissue to form an ablated lesion;
 - contacting the first region of tissue with the probe;
 - 15 establishing a second electrogram of the first region of tissue; and
 - comparing the first and second electrograms to assess transmuralty of the ablated lesion.

23. A method for manufacturing a transmural evaluation apparatus comprising:
providing a handheld elongate housing having a first end and a second end and
defining an interior passage therebetween;
positioning wiring having a first end electrically coupled to a second end in the
interior passage to electrically couple the housing first end to the housing second end;
5 electrically coupling a tissue contact to the wiring first end adjacent the housing
first end; and
electrically coupling a terminal connector to the wiring second end.

10 24. The method as set forth in claim 23, wherein the wiring is formed by winding a
plurality of wires around each other.

25. The method as set forth in claim 23, wherein electrically coupling a tissue contact
includes electrically coupling at least two tissue contacts to the electrical wiring.

15 26. The method as set forth in claim 23, wherein electrically coupling a tissue contact
includes electrically coupling six or fewer tissue contacts to the electrical wiring.

27. The method as set forth in claim 23, wherein electrically coupling a tissue contact
20 includes electrically coupling at least two tissue contacts in an arrangement of rows and
columns.

28. The method as set forth in claim 23, wherein electrically coupling a tissue contact
includes electrically coupling at least two tissue contacts arranged linearly.

25 29. The method as set forth in claim 23, further comprising electrically coupling the
terminal connector to at least one of an implantable cardiac defibrillator programmer and a
pacemaker programmer.

30 30. The method as set forth in claim 23, further comprising electrically coupling the
terminal connector to an electrocardiogram strip recorder.

31. The method as set forth in claim 23, further comprising electrically coupling the
terminal connector to a telemetry recording device.

32. The method as set forth in claim 23, further comprising electrically coupling the terminal connector to a cardiac pacing device.